GEOGRAPHIC NEWS BULLETINS

Published Weekly by

THE NATIONAL GEOGRAPHIC SOCIETY

(The National Geographic Society is a scientific and educational Society, wholly altruistic, incorporated under the Federal law as a non-commercial institution for the increase of geographic knowledge and its popular diffusion.)

General Headquarters, Washington, D. C.

Contents for Week of February 10, 1936. Vol. XIV. No. 29.

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THE NEW KING IS A FRIEND OF YOUTH

As Prince of Wales and Chief Scout of Wales, King Edward VIII here shows his interest in the activities of youth by inspecting a troop of British Boy Scouts with Lord Baden-Powell (left). Physical fitness, one of the three aims of good Scouting, is also a prime consideration with the King. At 41, he navigates his own boats and excels in tennis, golf, and squash rackets (see Bulletin No. 1).

HOW TEACHERS MAY OBTAIN THE BULLETINS

The Geographic News Bulletins are published weekly throughout the school year (thirty issues) and will be mailed to teachers for one year upon receipt of 25 cents (in stamps or money order). Entered as second-class matter, January 27, 1922, at the Post Office at Washington, D. C., under the Act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in section 1103, Act of October 3, 1917, authorized February 3, 1922.

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The British Empire—One-Fifth of People and One-Fourth of Land Area of Earth

NEARLY one-fifth of the world's people, in one-fourth of the land area of the world, mourn the death of their king, George V, of Great Britain.

Since England began to expand less than three centuries ago, the authority of British rulers has spread to every continent by exploration, war, peaceful occupation, and treaty, as well as by trade and purchase, so that truth of the saying, "the sun never sets on the British Empire," is well established.

The Union Jack flies over British land in every continent and over islands in "the seven seas." While vacationists sun themselves on the beaches of one-half of the Empire, the other half may be skiing and bobsledding on snow and ice, for British lands are almost equally divided between the southern and northern hemispheres. So, crops of one-half the Empire under a summer sun can feed the people of the other half where fields lie dormant during the winter.

Wealth of Resources

England is the industrial titan of the Empire, Canada its grain elevator and silver mine, Australia and New Zealand its packing house, the Malay States its source of rubber and tin, India its tea and cotton plantation, and South Africa its gold and diamond mine.

The British Empire is more than 260 times larger than the original England, fountainhead of its government. One-fourth of the red or pink areas, by which the British Empire is usually denoted on world maps, is confined to North America. The largest single slice of the Empire is Canada. Then there are Newfoundland, Labrador, and British Honduras, which, though individually not large in area, add about 171,000 square miles.

Another fourth of the Empire is to be found in Africa. The third largest continental division of the Empire is Australia, the only entire continent in the world under a single government. In Asia, the British flag flies over parcels of land ranging from the gigantic Indian peninsula with its teeming millions, to tiny sun-scorched Aden on the Arabian peninsula, and includes such important strategic as well as commercial areas as British Malaya, with the important port and naval base of Singapore; Ceylon, Hong Kong, and British North Borneo.

British Guiana, one of the three European-owned Guianas, on the north coast of South America, is the only British possession on that continent, although England also claims the Falkland Islands off Argentina. Europe has the smallest continental British area—Gibraltar. British islands of the South Pacific aggregate an area nearly equal to that of Scotland, while the British West Indies have more than twice the area of Northern Ireland.

Growth Following World War

The people of the Empire, more than 485,000,000 of them, are as diversified as the geography of the colonies. They run the gamut of races, colors, and creeds, and the whole range of civilization. A meeting, made up of one person of each racial and sub-racial type living under the protection of the British flag, probably would represent a more complete cross section of the peoples of the world than could be brought together by any other nation.

Geographically, the British Empire has both expanded and contracted during the reign of King George V. Following the World War protectorates and mandates totalling more than 973,000 square miles and nearly 10,800,000 population were added to British domain. The reign of George V, therefore, was exceeded only by that of Queen Victoria as a period of territorial expansion for the British.

The principal additions were the former German colonies of German East Africa (now Tanganyika), Southwest Africa, New Guinea, West Cameroons, West Togoland, and Western Samoa, and the former Turkish territory of Iraq, Palestine, and Trans-Jordan. Technically Southwest Africa was made a mandate of the Union of South Africa, the former German parts of New Guinea an Australian mandate, and Western Samoa a New Zealand mandate, but the Union Jack flies over each.

The most significant internal change made during the reign of King George V was the granting of Dominion status to the Irish Free State, Canada, Australia, New Zealand, and South Africa, allowing them many of the rights and liberties enjoyed by independent nations.

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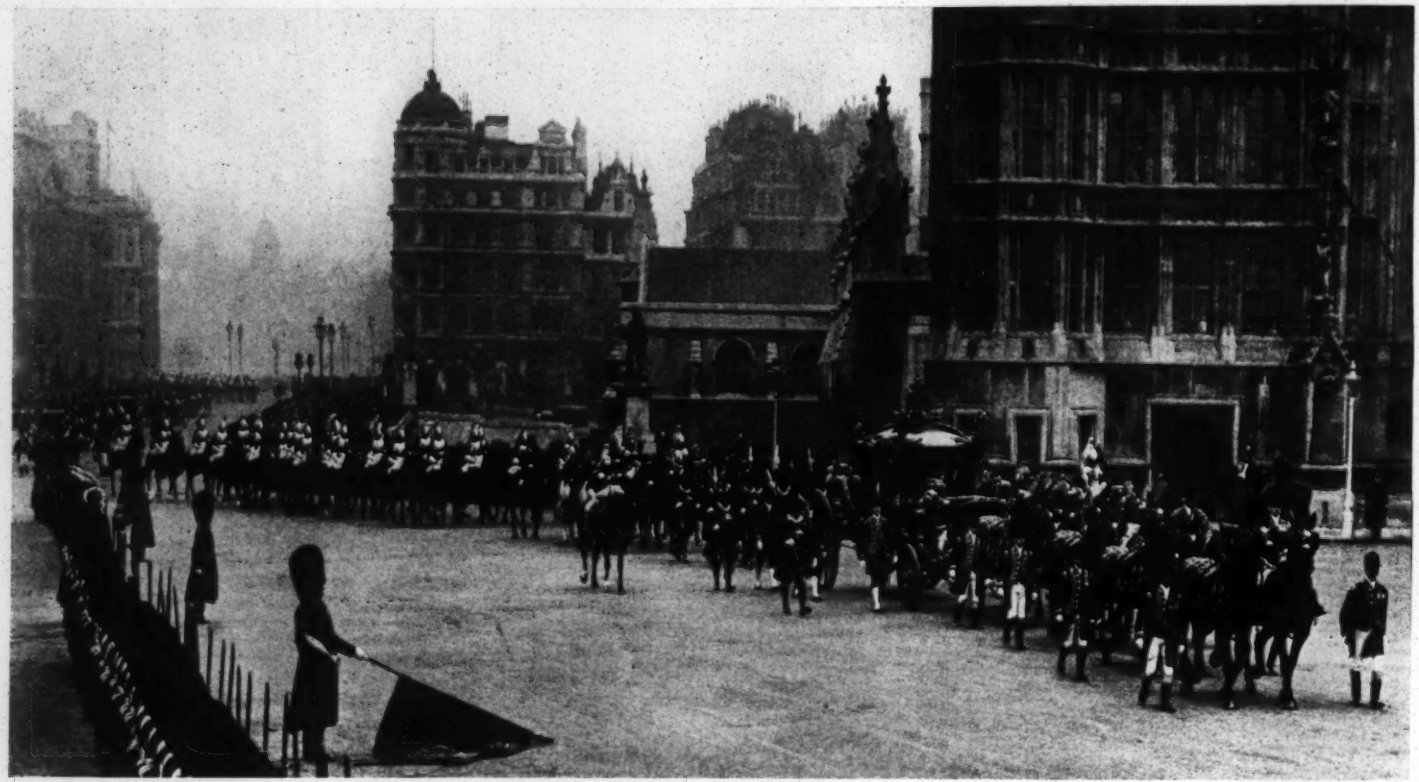

Photograph by Topical Press Agency

MEDIEVAL POMP AND SPLENDOR ARE DEAR TO THE HEART OF AN EMPIRE

For the loss of a beloved King, London seeks consolation in customs so ancient that they symbolize, "Kings may come, and kings may go, but the Empire goes on forever." Heralds, trumpeters, drummers, in dazzling uniforms, give color and glamor to the setting of royalty. Here, escorted by the Horse Guards in brass helmets, the royal coach carries the late King George to the opening of Parliament in 1932, passing a regiment of guards in gray cloaks and tall black busbies (see Bulletin No. 1).

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National Capital Has Many Mementoes of Abraham Lincoln

SIXTEEN Presidents of the United States have come to the Nation's Capital since Abraham Lincoln slipped quietly into town at 6 o'clock in the misty morning of February 23, 1861, nine days before his inauguration. More than half a century has passed since he retraced his route to Illinois, leaving a stunned town draped in black.

But, on the 127th anniversary of his birth, February 12, Washington has not forgotten. Of Lincoln statues, memorials, and relics, the capital has a priceless and fascinating collection.

Preeminent for beauty is the Lincoln Memorial, a classic marble shrine at the west end of the Mall, overlooking the Potomac River. Within a severely simple building sits a heroic marble statue by Daniel Chester French, "Lincoln Triumphant," three times as large as the statuesque President himself.

A Lincoln "Brought to Earth"

A smaller Lincoln statue, still more than life-size, stands before the District Court House. Originally this heroic bronze by Van Den Berghen topped a 25-foot marble column, recalling Lincoln's own story that he could love all humanity because his height removed him too far to hear what they said. Congress was asked to replace this statue with another more easily visible from the ground, but instead it had the column removed and brought Lincoln down to earth. Lincoln Park, on East Capitol Street, contains an unusual memorial, a bronze group showing the President, holding the Emancipation Proclamation, and a freed slave kneeling at his feet. It was erected entirely with the contributions of those whom he liberated, and unveiled on the eleventh anniversary of his assassination.

A huge marble head by Gutzon Borglum stands in the rotunda of the Capitol, where for two days Lincoln lay in state. It was during his administration that the rotunda and dome reached completion. A painting of "Lincoln and His War Cabinet at the First Reading of the Emancipation Proclamation" now hangs on the east stairway to the House of Representatives. A portrait in the main corridor to the Senate wing shows the President with a beard, grown at the suggestion of an 11-year-old girl from New York.

The most intimate memorials are on Tenth Street Northwest between E and F Streets—the building in which Lincoln was assassinated and the residence across the street where he died the next morning. The Ford Theater, now the Lincoln Museum, is a plain red brick structure flush with the sidewalk, housing the famous Oldroyd collection of Lincolniana.

Museum Was, In Turn, Church, Theater, and Office

In this building, a transformed Baptist Church, Lincoln attended a benefit performance of "Our American Cousin" on April 14, 1865. John Wilkes Booth, familiar enough to ushers to attract no attention as he wandered restlessly about the building, entered the passageway leading to the President's box, stepped behind Lincoln and fired one shot. In leaping from the box to the stage, his spur tore a flag draping the box; flag and spur are preserved in the Museum. Dashing through a stage entrance, he escaped by an alleyway which still exists.

The following year the old theater was bought by the Government and used for storage and office space until, in 1893, the floors, balconies, and stage collapsed, killing 22 clerks and injuring 68. In 1928 work began on its transformation into a Lincoln Museum. Although the original ground plan and dimensions are well known, the stage and Presidential box have not yet been reconstructed.

The Museum, run by the Office of National Parks, Buildings, and Reservations, contains a large collection of curios and documents connected with the capture, trial, and punishment of the conspirators in the assassination. Posters, sheets of music, cartoons, and newspapers reveal the political turmoil of Lincoln's day, and the universal grief at his death.

Directly across the street, at 516 Tenth Street, the "Lincoln House" preserves the room in which the President died at 7:22 on the morning of April 15, 1865. Here the unconscious President was laid diagonally across a walnut spool bed. The little bedchamber, with its sloping ceiling, has replicas or originals of bed, washstand, dresser, chairs, and pictures.

Some buildings associated with Lincoln in Washington have entirely disappeared. Mrs. Spriggs' boarding house, where he lived during his term in the House of Representatives, was torn down to make way for the Library of Congress. The old Willard Hotel, where he stayed while waiting to be inaugurated, has been replaced by the New Willard.

Traces of his occupation remain in the White House. The Lincoln china, with mulberry

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Britain thus became a Commonwealth of Nations, rather than an empire in the old sense. Iraq, Turkish territory that became a British mandate following the World War, was granted complete independence in 1930.

These internal changes made a difference in the American scene. In Washington three new legations—the Canadian, the Irish Free State, and the South African—put in an appearance, and began to play a part in international affairs. Following the World War Egypt was divorced, through British assistance, from Turkish influences, and, in 1924, an Egyptian Legation was opened in Washington. One of the last acts of King George's reign was the restoration of Egypt's Constitution.

In Geneva six of the fifty-eight member states in the League of Nations recognize the British King—Great Britain, Canada, the Irish Free State, New Zealand, South Africa and Australia.

It was during King George V's reign, too, that the initial steps were taken toward granting India the status of a Dominion. A Constitution was granted, approved by Parliament, and the Viceroy was delegated to put the new federation into operation. But half of the native rulers must approve the Constitution before it becomes fully operative, and that will take an estimated three years.

An unusual change made during George V's time was the ending of self-government for Newfoundland and Labrador, which were returned to a Crown colony status until such time as they should again become self-supporting.

Note: Students preparing special projects about the British Empire should consult the following articles: "New Zealand 'Down Under'" and "Bahama Holiday," *National Geographic Magazine*, February, 1936; "Capital Cities of Australia" and "The Rock of Aden," December, 1935; "The Mist and Sunshine of Ulster" and "The Maltese Islands," November, 1935; "Great Britain on Parade" and "The Gaspé Peninsula Wonderland," August, 1935; "The Penn Country in Sussex" and "The Paradise of the Tasman," July, 1935; "Rhodesia, the Pioneer Colony," June, 1935; "Tuatara, a 'Living Fossil' of New Zealand," May, 1935; "Summering in an English Cottage," April, 1935; "Old France in Modern Canada," February, 1935; "England's Sun Trap Isle of Wight," January, 1935; "When the Herring Fleet Comes to Great Yarmouth," August, 1934; "Peaks and Trails in the Canadian Alps," May, 1934; "Changing Palestine," April, 1934; "Vagabonding in England" and "Coconuts and Coral Islands (Solomon Islands)," March, 1934; and "Three-Wheeling Through Africa (British West Africa)," January, 1934.

Bulletin No. 1, February 10, 1936.

Photograph by Rollo H. Beck

SONS OF PITCAIRN MUTINEERS ARE LOYAL BRITISH SUBJECTS NOW

A storage battery radio with a range of 300 miles is Pitcairn Island's only contact with the outside world. This isolated sub-tropical island, supporting a little community of about 250—all descendants of Christian, who led the famous "Mutiny on the *Bounty*"—may not hear of the new King for several weeks yet. Putting out in a whale boat to visit one of the rare passing liners, these Pitcairn Islanders show that they are skillful sailors, worthy of the maritime traditions of the British Empire, of which Pitcairn is one of the most remote outposts.

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The Sizzling Danakil Plain, an Ethiopian Bulwark

HEAT so great that shirt buttons grow too hot to touch, men so savage that many of them prize a trophy of murder above all else, cruel deserts, waterless barrens—such is the Danakil country, most forbidding Ethiopian bulwark against invasion.

In the north is the Danakil Depression—desert at its worst—an oval of desolation 100 miles wide and 200 miles long, sunk 300 to 400 feet below sea level, deeper than California's Death Valley and many degrees hotter.

Yet this depression could be transformed into a boom area, according to Italian engineers in Eritrea. They plan to dig two canals and flood it with water from the Red Sea. Then the new inland sea will bring fertility to the Danakil and trade to Eritrean ports.

Fierce Men and Fiercer Nature

A country where men are fierce and Nature is fiercer still, the Danakil covers an area roughly the same as that of Kansas. It interposes a feared and commonly-avoided barrier 400 miles long and 150 miles wide along the boundaries that separate Ethiopia from northern Eritrea and much of French Somaliland.

The Danakil country is an ancient ocean bed now blisteringly dry. It has huge deposits of salt and potash, chalk beds, lava fields, and in the north several active volcanoes.

Crocodiles and hippopotami thrive in the waters of the Awash River in the south. There also are herds of zebra, antelope, and wild boar, and farther north hardy herds of wild asses find a precarious living around the far-scattered water holes.

West of Mussa Ali (Mountain of Moses) the Danakil is a dry waste of hills, boulder-strewn barrens, basalt cliffs, and canyons. Available maps show only "occasional water" scattered through the region. This area roughly marks the center of the Danakil.

To the north it is even more forbidding, with volcanoes active or quiet surrounded by rough lava flows, a chain of huge salt lakes along the western edge of the Danakil Depression, and many of the water holes so mineralized as to make the water almost unfit to drink.

Raw Meat and Milk Make a Danakil Meal

Not all of the Danakil is a waste, however. In the southern Danakil, just north of the railroad from Djibouti to Addis Ababa, the country is more inviting. High mountains rise from 6,000 to 8,000 feet. A belt of forest extends along the course of the Awash River and game is plentiful. There are hot springs, swamps and many water holes, with grassy plains and thorn bush scattered here and there.

Near its eastern border the Awash, one of Ethiopia's several disappearing rivers, loses itself in the ground on its way toward the sea. Before vanishing it waters an area of the southern Danakil sufficiently for cultivation of crops and grazing for game and herds of cattle and camels.

The Danakil people are primitive men in almost every sense of the word. Some of them, explorers have said, live more like animals than men, sleeping on the bare ground and living on only meat and milk from their thirsty, half-starved flocks.

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band and United States seal, is on display in the China Room, where hangs a portrait of Mrs. Lincoln. The Lincoln bed, seven feet long and almost six feet wide, is still in use in a guest room, as are four Lincoln chairs. The Cogswell portrait of Lincoln hangs in the great State Dining Room, and a smaller picture in the lower hall. The East Room contains a bust.

The Anderson Cottage, in the hills three miles north of the Capitol, where the Lincolns spent the summers, and where Lincoln worked on the Emancipation Proclamation, is still in use as a part of the National Soldiers' Home. Now half dwelling and half store is Mrs. Surratt's boarding house, at 604 H Street Northwest, in which Booth and his fellow conspirators laid their plans and hid their weapons in a china closet.

The New York Avenue Presbyterian Church preserves the pew in which Lincoln sat on the quiet Sunday morning when faint booming of guns gave notice of the Battle of Bull Run 20 miles away. A memorial window, a Lincoln chapel, clock tower and chimes, and a Lincoln room of relics commemorate the connection of the President's family with this church.

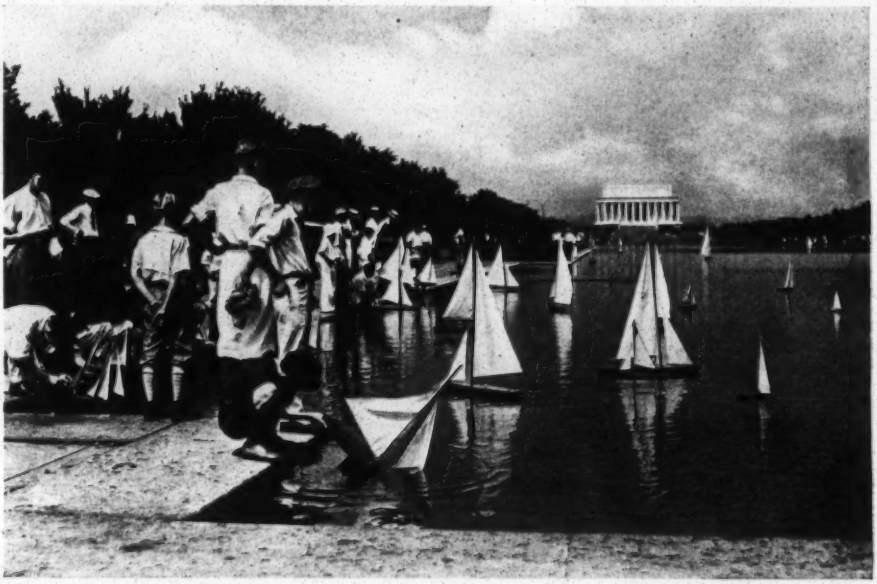
Other collections draw visitors to the National Museum, where the Arts and Industries Building houses a case of Lincoln relics, including Lincoln's invention for helping ships over shoals, and the rich purple velvet gown of Mrs. Lincoln, with fan and parasol to match.

The Library of Congress has original manuscripts of the Gettysburg Address and the First and the Second Inaugural Addresses. Additional copies of these may exist, for Lincoln occasionally rewrote manuscripts and presented them to the Sanitary Commission, which preceded the Red Cross, to be sold for charity. A handwritten copy of the Emancipation Proclamation, for instance, is in the State Library at Albany, New York. The Library of Congress has also three trunks full of relics and manuscripts, presented by Lincoln's son, Robert, who asked that they not be opened until 1947.

Lincoln's Hill takes its name from a Civil War fort which has crumbled away, and Fort Stevens cherishes a bronze tablet which marks the spot where Lincoln watched the defense of the city against General Early. This is the only time a President of the United States, while in office, has participated in a battle and has been exposed to fire.

Note: For other references and photographs of mementoes to Lincoln in Washington see "Wonders of the New Washington," *National Geographic Magazine*, April, 1935; "Winter in the Nation's Capital," February, 1935; "Washington Through the Years," November, 1931; "Approaching Washington by Tidewater Potomac," March, 1930; "Unique Gifts of Washington to the Nation," April, 1929; "The Lincoln Memorial," June, 1923; "Views of the Lincoln Memorial in Washington," November, 1922.

Bulletin No. 2, February 10, 1936.



Photograph by Charles Martin

THE POOL REFLECTS YOUTHFUL SPORT AND AGE-OLD DIGNITY

This shallow reflecting basin is a mirror of beauty between the Lincoln Memorial and the Washington Monument. The Memorial has 36 columns, symbolizing the 36 States in the Union which Lincoln preserved. Although his body lies in Springfield, Illinois, here "the memory of Abraham Lincoln is enshrined forever."

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A Diving Helmet Admits You to Bermuda's Underseas Wonderland

WINTER visitors in Bermuda have found a new thrill. Submarine strolls and informal calls on fish in their "homes,"—real samples of life with Davy Jones—are part of the popular sport of amateur helmet diving, made possible through equipment rented by the Government Aquarium on Harrington Sound.

Having been a regular activity of scientists in Bermuda for some time, helmet diving is now available to the average person on any day when the water is not rough. Hundreds of sightseers, including many women and children, are enjoying this unique sport.

After visiting the Aquarium, one of the finest in the world, more adventurous students of the home life of fishes may extend their acquaintance with Bermuda's fish families by strolling beneath the clear calm water of Harrington Sound to view them in their natural surroundings. It is an Alice in Wonderland experience, walking about in a world of water and feeling fish frisk around you unprotected from your touch by a tank's glass walls.

Taking the Air Beneath the Sea

Divers on their first descents are apt to be nervous. Clad only in bathing suit and sneakers, the novice may eye with apprehension the strange-looking copper helmet with its snakelike air hose (see illustration, next page).

Water closing in under the open helmet almost to the mouth may cause alarm, but air pressure above holds it down to chin level, and one soon relaxes again. If the diver feels ear pressure, as in elevators, it can be relieved by swallowing. Once he becomes accustomed to silvery bubbles and the gentle gurgling of water as the pump forces air out under the bottom of the helmet, the newcomer to Neptune's realm is ready to look out of the glass windows in the front of the helmet and enjoy the strange spectacle of being at home with the fish.

Wandering through this underseas world of greenish-blue twilight, one has the queer feeling of being a disembodied spirit, of pressing against warm wind—of wading, not up to the ankles only, but with the whole body. Distances under water are strangely deceiving. The diver progresses through clear water for what seems a city block, only to be told that it was no more than a score of feet.

Underwater View of Fish Ideal One

Those who think all fish are silvery and torpedo-shaped are surprised by the variety of beautiful colors and the strange shapes of Bermuda's fish. While one gets some slight idea of them by gazing down through a glass-bottomed boat towed slowly over the reefs, one can see them still better, without distortion or foreshortening, through the helmet. Many fish, pale and dull on ice in Bermuda's markets, are brilliant with flashing changing color when seen alive under the water. Red Squirrelfish, striped Yellow Grunts, Sergeant-Majors, Angelfish, and many others dart past the helmet's window.

Many forms of sea life, other than fish, attract the attention of the diver. On the rocks are chitons, related to snails, whose shells are arranged in overlapping plates. Pulled loose from a reef, they curl up like miniature armadillos. Lovely sea anemones wave pastel-colored tentacles to and fro like the languid arms of

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Their method of making fire by rubbing sticks is more primitive than that used by the Egyptians 4,000 years ago. Many tribes kill all strangers on sight, are constantly attacking and plundering each other, and have a marked hatred for all white men.

The rulers of Ethiopia never have had much more than nominal control over them. Along the borders of French Somaliland an armed truce exists between Danakils and French garrisons. Most of the Danakils are Mohammedans.

Many a Danakil warrior wears a feather in his hair as a proud sign that it is less than a year since he has killed a man. In some tribes a man may not marry until he has taken at least one human life.

Of Mixed Egyptian and Arab Blood

Though the Danakils are dark of skin, explorers believe they have little or no Negro blood but are a mixture of Egyptian and Arab strains. The typical Danakil is clear cut of feature but almost painfully thin, for at the best his life is hard in the desert, and famine often kills whole tribes when lack of water wipes out their scanty flocks.

Even in the shade temperatures have been registered from 140 to 156 degrees Fahrenheit, so much greater than the normal temperature of the human body that travelers cool their hands by placing them under their armpits. The tropical heat sometimes reaches 167 degrees, three-fourths as hot as boiling water.

Note: For information about the Danakil country and its people see "Traveling in the Highlands of Ethiopia," *National Geographic Magazine*, September, 1935; and "Sailing Forbidden Coasts," September, 1931.

For data and photographs about the other sections of Ethiopia see "Open-Air Law Courts in Ethiopia," *National Geographic Magazine*, November, 1935; "Life's Tenor in Ethiopia," June, 1935; "Modern Ethiopia," and "Coronation Days in Addis Ababa," June, 1931; "Nature and Man in Ethiopia," August, 1928; and "A Caravan Journey Through Abyssinia (Ethiopia)," June, 1925.

Bulletin No. 3, February 10, 1936.

Photograph by Ida Treat

DANKALI OF THE DANAKIL, IN THEIR CAPITAL TADJOURA

Tadjoura, in French Somaliland, is one of the few real towns of the nomadic people of the Danakil. Whitewashed mud houses and arcades of the Arab-style villages rub elbows with brush-covered huts. Temperatures ranging up to 167 make clothing a matter of choice rather than a necessity. Their hatred for white men is said to be due to professional jealousy when Europeans began to rival them as slave traders.

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Lake Titicaca, Where Steamships Ply above the Clouds

SCIENTISTS from three nations are riding up the Andes to a lake above the clouds—Lake Titicaca. The United States, Bolivia, and Peru are interested in experiments in fish culture in this highest navigable body of water in the world. Engineers plan to construct a hydro-electric power plant there, to be one of the largest in Latin America. And the Bolivian Ministry of Justice has announced that the historic Isla de la Luna, or Island of the Moon (see map, next page) will be the site of a new national jail, with workshops and training schools.

Situated some 12,500 feet above sea level, on a mountain plateau between two towering ranges of the Andes, and between the two countries Peru and Bolivia, Lake Titicaca spreads its blue mirror in a region where the air is so intensely keen and cold that horses cannot work, and even some of the sure-footed burros must have their nostrils slit in order to breathe.

Indians Not Handicapped by Thin Air

Tourists frequently suffer from the thumping heart and nausea of mountain sickness, but Aymará Indians, native to the place, have developed massive chests and large torsos which enable them even to carry heavy burdens on their backs up steep paths without distress.

Thought to have once been much larger, and to have receded, Lake Titicaca still covers over 4,500 square miles (an area almost equal to that of Connecticut). Into it flow several streams fed by glacial ice and melting snow on the Andes.

Plans for the new power plant would include digging a canal to send water from Lake Titicaca plunging over steep precipices to furnish electric power for the entire Bolivian plateau, as well as for the country's railroad lines.

What cheap electric power will mean to Bolivia, which produces no coal and must import it at terrific cost, is realized in La Paz, only 45 miles southeast of the lake. Electricity must provide the city with light and heat, as well as run street cars and buses and the railroad to the heights above the city.

Almost No Wood in Region

To comprehend fully what electricity would mean to dwellers on the bleak wind-assailed plateau containing Lake Titicaca, one must remember that it is practically treeless. Wood is so scarce that fishermen make boat masts by splicing together small sticks. Indian huts on the lake shores are built of stones or adobe and thatch. Walls enclosing corrals for herds of llamas and alpacas are built of adobe, as are ovens in which the cooking is done.

The native huts, built with few or no windows and thick roofs to ward off the cold, are largely unheated. In the sunshine copper-colored Aymará Indians, with their striped woolen ponchos, knitted red caps and ear tabs, are not uncomfortable. But at night, when the temperature drops suddenly and bone-chilling winds sweep over the plateau, they shiver in their damp adobe hovels.

Lake Titicaca presents a scene of cold grim majesty. In the distance, towering above the dreary landscape, gleam the snow-clad summits of the Andes over which Andean condors soar. Along the lake shores sway tall bulrushes, which natives bind together in huge canoe-shaped bundles to make their *balsas,* or boats. Propelled by sails woven from reeds, they glide over the cold gray-blue waters from place to place carrying fish, alpaca wool, and other products, or ferrying passengers and mules.

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ballet dancers. Resembling frail flowers, they, nevertheless, seize and paralyze fish.

On the sand are puffy black sea puddings, tiny scuttling crabs, crawling starfish, and spiny sea urchins. Stepped on, the spines of these so-called "hedgehogs of the sea" frequently break off in one's foot. It is largely to escape this painful experience that one wears sneakers. Aside from them, there is little to avoid. Small fish that unexpectedly lip one's legs are merely curious and harmless.

For two reasons Bermuda is an ideal place to don a helmet for observing fish. The Gulf Stream, which flows like a warm sapphire river through the Atlantic north of Bermuda, protects the islands from cold and insures a teeming supply of semi-tropical fish. The islands are coral formations on the top of a submarine mountain, and scientific dives may be made very near shore to observe species of both deep and shallow water fish.

Note: Students interested in helmet-diving, and underseas life, should consult the following: "Coral Castle Builders of Tropic Seas," *National Geographic Magazine*, June, 1934; "A Wonderer Under Sea," December, 1932; "The Great Barrier Reef and Its Isles," September, 1930; "Florida—The Fountain of Youth," January, 1930; and "Life on a Coral Reef," January, 1927.

Bulletin No. 4, February 10, 1936.

Photograph from Dr. William Beebe

A NEW WAY TO DROP A LINE UNDER THE SEA

Although it weighs 60 pounds above the surface, the copper diving helmet becomes air-filled under water and weighs only two or three pounds. It is possible to make first-hand notes of observations under water if the diver provides himself with waterproof paper or a sheet of zinc. A bathing suit and a pair of tennis shoes are the rest of the "uniform" needed to become a member of what Dr. Beebe calls "The Society of Wonderers Under Sea."

Steamers Carried on Mule Back

Steamers ply back and forth between the Peruvian port of Puno, on the northwest shore of the lake, to the Bolivian port of Guaqui, on the southwest shore. These steamers were sent over in sections from Great Britain and assembled at Puno. Before the railroad was built from the Pacific Ocean to Puno (see map, below), parts of steamers were carried on muleback up the mountain trails to the lake.

On account of the high altitude, only potatoes (whose habitat was the Andes), barley, quinoa, and a few other crops can be cultivated with success by the Indians. Herds of alpacas, cousins of the llama, graze over large areas near Lake Titicaca.

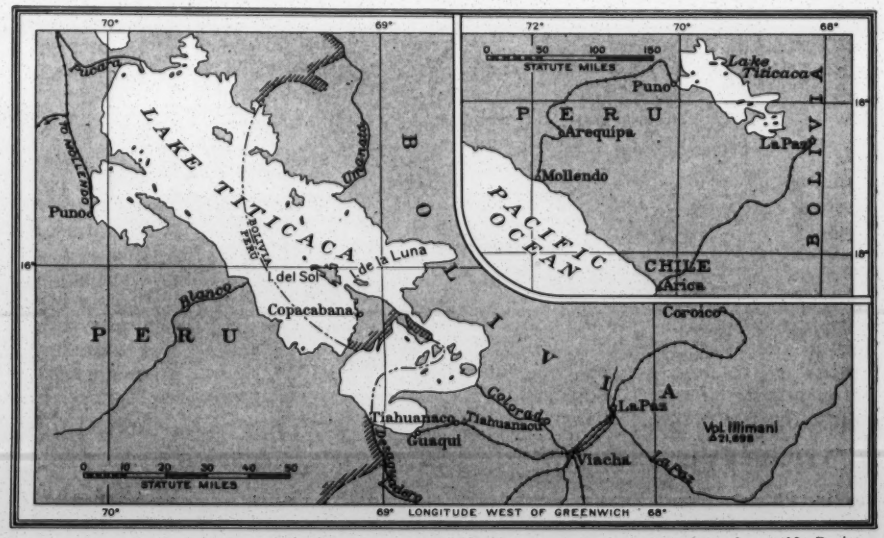
Puerto Acosta, on the lake's northeast shore, is one of Bolivia's two centers of the alpaca wool trade, the other being Charaña on the Arica-La Paz railroad. The wool is woven into many useful articles, including blankets and hawsers for the lake's steamers. The llama, whose coarser wool is less valuable, is used as a beast of burden.

Lake Titicaca holds considerable historical interest. The ancient Incas are said to have lived on some of its more than 30 islands. On a few of them, and on the mainland, tombs of Inca chiefs have been found. Tradition says it is into this deep lake that the Incas threw much of the gold and silver they stripped from their temples to prevent Pizarro from seizing it.

About 10 miles from the lake are the pre-Inca ruins of Tiahuanacu, thought to be about 3,000 years old. That any of its ruins are still standing is surprising, considering that the Spaniards carried off many of its carved stones to erect churches, and Indians made off with others to build impressive doorways to their huts.

Note: For additional photographs and references concerning the Lake Titicaca region see "Bolivia, Land of Fiestas," *National Geographic Magazine*, November, 1934; "Among the Snows and Flowers of Peru," June, 1930; "Buenos Aires to Washington by Horse," February, 1929; and "The Heart of Aymará Land," February, 1927.

Bulletin No. 5, February 10, 1936.



Drawn by James M. Darley

AN INTERNATIONAL LAKE WHOSE WATER NEVER REACHES THE SEA

The boundary between Peru and Bolivia is shown cutting across Lake Titicaca. The Desaguadero River, running off the lower border of the map, carries the overflow of the lake 185 miles southeast into Lake Poopó, but it never reaches the sea. From Lake Poopó it spills into a salt marsh, where it is either absorbed or evaporated. The inset reveals Lake Titicaca's tantalizing closeness to the Pacific Ocean.